

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004605**Date Inspected:** 14-Oct-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

East Shaft Internal Bolted Splice Plate

The Quality Assurance Inspector observed ZPMC performing heat straightening operations to Internal Splice Plate ESD1-SA97 without prior approval from the Engineer. The Quality Assurance Inspector measured the member to be out of flatness by approximately 10 millimeters. ABF representative Mike Williams was informed that a Non Conformance Report would be generated pertaining to the requirements of ZPMC Welding Quality Control Plan Section 11.1.2 which states "For material greater than 16mm in thickness, heat straightening shall not be performed on members with out-of-flatness tolerances greater than 3/1000 without prior approval of the Engineer. Below are digital photographs illustrating the discrepancy.

East Shaft Lift 1

The Quality Assurance Inspector observed ZPMC performing in process welding between Skin Plate A to Skin B. ZPMC was utilizing the shielded metal arc welding process to produce the complete joint penetration weld in overhead position. The Quality Assurance Inspector witnessed Quality Control measure the parameters at the welder's stations and the parameters appeared to be within the requirements of WPS-B-P-2214-C-U2 SMAW 4G.

East Shaft, Skin D, Lift 1

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The Quality Assurance Inspector performed a random visual verification of the longitudinal stiffener to skin plate partial and complete joint penetration connection. It was observed that ZPMC is continuing to grind the undercut on the vertical leg of the weld even though they are fully aware of the requirements in AWS D1.5 2002. The code requires undercut to be welded. The Quality Assurance Inspectors were informed grinding was compliant up to the undercut depth.

South Shaft, Lift 1, Skin C

The Quality Assurance Inspector observed ZPMC performing flux cored arc welding to the brace plate stiffeners between the longitudinal stiffeners. ZPMC was utilizing several ten ton jacks to aid in the fit-up. Please note the nondestructive testing was completed and accepted by ZPMC for the longitudinal stiffener to skin plate partial and complete joint penetration welds, where the jacks force is being applied.

South Shaft, Skin D, Lift 1

The Quality Assurance Inspector observed ZPMC performing fit-up and tack welding operations of the connection plate to longitudinal stiffener partial joint penetration connection. ZPMC was utilizing the shielded metal arc welding process to produce the tack weld in the horizontal position.

South Shaft, Skin A, Lift 2

The Quality Assurance Inspector observed ZPMC performing fit-up and tack welding operations of the longitudinal stiffeners to skin plate partial and complete joint penetration connection. ZPMC was utilizing the shielded metal arc welding process to produce the tack welds in the horizontal position.



Summary of Conversations:

As stated in the contents of the above report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi 137.6471.0411 , who represents the Office of Structural Materials for your project.

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Inspected By: Bertlesman,Greg

Quality Assurance Inspector

Reviewed By: Wright,Mark

QA Reviewer